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10/564,995	04/12/2007	Xiyuan Chen	02291/0203870-US0	7140
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DARBY & DARBY P.C.			JAMA, ISAAK R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,995	Applicant(s) CHEN ET AL.	
	Examiner ISAAK R. JAMA	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/11/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 7,302,497 (Vilander et al.).
2. Regarding claim 1, Vilander teaches a radio network controller **[Figure 2]** comprising; a plurality of functional modules **[Figure 2, #s 40-51]**, wherein the functional modules at least comprising: an ATM interface module **[Figure 2, # 40]**, an interface management module **[Figure 2, # 48]**, a radio signaling management module **[Figure 2, # 44]**, and a radio bearer processing module **[Figure 2, # 50, column 7, lines 55-59; i.e. radio link control (RLC) unit basically handles the radio link control toward the user equipment unit (UE). Certain functions of the radio link control (RLC) unit are retransmission of erroneous frames, error control, quality of service (QoS) coordination]**, characterized in that the radio network controller replaces an ATM switch with an IP switching network to achieve data and signaling exchange among the above functional modules in the radio network controller **[Column 8, lines 28-30]**

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3. Regarding claim 2, Vilander teaches that the IP switching network supports QoS **[Column 7, lines 55-59]**.

4. Regarding claim 3, Vilander teaches that the each of the functional modules respectively comprise at least one functional board, and the functions of each of the functional modules are respectively achieved in different functional boards **[Column 9, lines 6-16]**.

5. Regarding claim 4, Vilander teaches that each of the functional modules is arranged in a single chassis to form an elementary unit of the radio network controller **[Figure 2, #s 40-51]**.

6. Regarding claim 5, Vilander teaches that the IP switching network is an IP switching module contained in the chassis, and each of the functional modules achieves data and signaling exchange inside the radio network controller by connecting with the IP switching module **[Figure 2, # 40 and modules 41-51; column 14, lines 45-63; i.e. the ATM and AAL5 protocols of the conventional arrangement (see FIG. 7) have been replaced with two protocols: an appropriate link layer protocol (e.g. Ethernet) and the IP Protocol]**.

7. Regarding claim 6, Vilander teaches that the ATM interface module and the radio bearer processing module, after being extended, are configured in at least one extended chassis, such that the radio network controller further comprises at least one extended unit of the radio network controller **[Figure 2, #s 40 and 50]**.

8. Regarding claim 7, Vilander teaches that the IP switching network comprises a group of IP switching modules and concentrator routing switches, wherein the IP

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switching module connects each of the functional modules in the elementary unit and extended unit of the radio network controller, and the concentrator routing switch connects the units via the IP switching module in the elementary unit and extended units of the radio network controller **[Figure 2, # 40 and modules 41-51; column 14, lines 41-63; i.e. the present invention can also be used with the GRE (Generic Routing Encapsulation) protocol being above the Internet Protocol (IP) in the protocol stack architecture, and the ATM and AAL5 protocols of the conventional arrangement (see FIG. 7) have been replaced with two protocols: an appropriate link layer protocol (e.g. Ethernet) and the IP Protocol]**.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8 and 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 7,302,497 (Vilander et al.) in view of U.S. Patent Number 6,046,999 (Miki et al.)

11. Regarding claim 8, Vilander has been discussed above in regard to claim 6. But Vilander fails to teach that the number of the interface ATM boards constituting the ATM interface module is configured according to the data flow of the interfaces and the number of the ports required to be provided, and the number of the radio bearer processing boards constituting the radio bearer processing module is configured

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according to the number of the users to be supported and the data flow. Miki teaches switch fabric unit 521 has a total of twelve physical ports which are successively numbered from first to twelfth. ATM interfaces 523A to 523H are connected to the first to eighth physical ports, and cell multiplexing/demultiplexing units 511A to 511D are connected to the ninth to twelfth physical ports **[Figure 4, #s 523A-523H, column 7, lines 38-43]**. And in regarding to claim 11, Miki further teaches a router apparatus using an ATM switch whereby a multiplex transmission apparatus implemented to load an ATM cell with an IP packet and transmit the ATM cell to an ATM network **[Figure 49 # 24, column 1, lines 51-64]**. Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to include the method of Miki in the system of Vilander in order to classify and manage a quality of service.

12. Claims 9,10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 7,302,497 (Vilander et al.) in view of U.S. Patent Application Publication Number 2004/0109455 (Jouppi et al.)

13. Regarding claims 9, 10, 12 and 13, Vilander has been discussed above. But Vilander fails to specifically teach that each of the functional modules comprise information filling means for filling in a DiffServ field of an IP header to be transmitted, or that the IP switching module or the concentrator routing switch comprises reading means for reading a DiffServ field of an IP header of a data package. Jouppi teaches a transmission of data packets by a node whereby a terminal equipment device encodes a codepoint into the DiffServ field of each IP packet of the data flow **[Page 7, paragraph 0087]** as well as the mobile terminal checking the codepoints in the DiffServ

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field of the header of all received IP packets [**Page 7, paragraph 0089**]. Therefore, it would have been obvious to a person of ordinary skill at the time the invention was made to include the method of Jouppi in the system of Vilander in order to classify and manage a quality of service.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Number 7,382,783 (Kawakami et al.) teaches a multiplex transmission apparatus and multiplex transmission method for encapsulating data within a connectionless payload. U.S. Patent Number 7,139,275 (Vyas) teaches a method and apparatus for providing differentiated services on ATM switched virtual circuits when transporting IP packets. U.S. Patent Number 7,043,247 (Chitrapu) teaches a routing header based routing in internet protocol (IP)-cellular networks. U.S. Patent Application Publication Number 2004/0203640 (Molander et al.) teaches a method and apparatus for providing RNC internet protocol address to circuit switched domain.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAK R. JAMA whose telephone number is (571)270-5887. The examiner can normally be reached on 7:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IRJ/

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617